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CURRENT STATUS OF ALL CLAIMS

1. (Currently amended) A method of identifying an ADP-glucose receptor agonist or antagonist, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds under conditions wherein said receptor produces a G-protein coupled signal in response to ADP-glucose, wherein said ADP-glucose receptor polypeptide comprises SEQ ID NO:2, ~~or a minor modification of SEQ ID NO:2~~ or an amino acid sequence having at least 85% identity with SEQ ID NO:2 that transduces a G-protein coupled signal in response to ADP-glucose; and

(b) identifying a candidate compound that alters production of said signal, said compound being characterized as a ADP-receptor agonist or antagonist.

2. Previously canceled.

3. (Previously amended) A method of identifying an ADP-glucose receptor agonist or antagonist, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds under conditions wherein said receptor produces a G-protein coupled signal in response to ADP-glucose, wherein said ADP-glucose receptor polypeptide has the amino acid sequence designated SEQ ID NO:2; and

(b) identifying a candidate compound that alters production of said signal, said compound being characterized as a ADP-receptor agonist or antagonist.

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4. The method of claim 1, wherein said G-protein coupled signal is increased intracellular calcium ion concentration.

5. The method of claim 1, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

6. The method of claim 1, wherein said candidate compound contacts said ADP-glucose receptor polypeptide in the presence of ADP-glucose.

7. (Currently amended) A method of identifying an ADP-glucose receptor ligand, comprising:

- (a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds under conditions wherein said receptor selectively binds ADP-glucose, wherein said ADP-glucose receptor polypeptide comprises SEQ ID NO:2, ~~or a minor modification of SEQ ID NO:2~~ or an amino acid sequence having at least 85% identity with SEQ ID NO:2 that transduces a G-protein coupled signal in response to ADP-glucose; and
- (b) identifying a candidate compound that selectively binds said ADP-glucose receptor polypeptide, said compound being characterized as an ADP-receptor ligand.

8. Previously canceled.

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9. (Previously amended) A method of identifying an ADP-glucose receptor ligand, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds under conditions wherein said receptor selectively binds ADP-glucose, wherein said ADP-glucose receptor polypeptide has the amino acid sequence designated SEQ ID NO:2; and

(b) identifying a candidate compound that selectively binds said ADP-glucose receptor polypeptide, said compound being characterized as an ADP-receptor ligand.

10. The method of claim 7, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

11. The method of claim 7, wherein said candidate compound contacts said ADP-glucose receptor polypeptide in the presence of ADP-glucose.

12. (Currently amended) A method of identifying an ADP-glucose receptor agonist or antagonist, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds in the presence of ADP-glucose under conditions wherein said receptor produces a G-protein coupled signal in response to ADP-glucose, wherein said ADP-glucose receptor polypeptide comprises SEQ ID NO:2, ~~or a~~ minor modification of SEQ ID NO:2 or an amino acid sequence having at least 85% identity with SEQ ID NO:2 that transduces a G-protein coupled signal in response to ADP-glucose; and

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(b) identifying a candidate compound that alters production of said signal, said compound being characterized as a ADP-receptor agonist or antagonist

13. Previously canceled.

14. (Previously amended) A method of identifying an ADP-glucose receptor agonist or antagonist, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds in the presence of ADP-glucose under conditions wherein said receptor produces a G-protein coupled signal in response to ADP-glucose, wherein said ADP-glucose receptor polypeptide has the amino acid sequence designated SEQ ID NO:2; and

(b) identifying a candidate compound that alters production of said signal, said compound being characterized as a ADP-receptor agonist or antagonist.

15. The method of claim 12, wherein said G-protein coupled signal is increased intracellular calcium ion concentration.

16. The method of claim 12, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

17. (Currently amended) A method of identifying an ADP-glucose receptor ligand, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds in the presence of ADP

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glucose under conditions wherein said receptor selectively binds ADP-glucose, wherein said ADP-glucose receptor polypeptide comprises SEQ ID NO:2, ~~or a minor modification of SEQ ID NO:2~~ or an amino acid sequence having at least 85% identity with SEQ ID NO:2 that transduces a G-protein coupled signal in response to ADP-glucose; and

(b) identifying a candidate compound that selectively binds said ADP-glucose receptor polypeptide, said compound being characterized as an ADP-receptor ligand.

18. Previously canceled.

19. (Previously amended) A method of identifying an ADP-glucose receptor ligand, comprising:

(a) contacting an ADP-glucose receptor polypeptide with one or more candidate compounds in the presence of ADP glucose under conditions wherein said receptor selectively binds ADP-glucose, wherein said ADP-glucose receptor polypeptide has the amino acid sequence designated SEQ ID NO:2; and

(b) identifying a candidate compound that selectively binds said ADP-glucose receptor polypeptide, said compound being characterized as an ADP-receptor ligand.

20. The method of claim 17, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

Claims 21-33. Previously canceled.

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34. Currently canceled.

35. (Previously added) The method of claim 1, wherein said ADP-glucose receptor polypeptide has at least 95% identity to the amino acid sequence designated SEQ ID NO:2.

36. (Previously added) The method of claim 1, wherein said ADP-glucose receptor polypeptide has at least 99% identity to the amino acid sequence designated SEQ ID NO:2.

37. Currently canceled.

38. (Previously added) The method of claim 7, wherein said ADP-glucose receptor polypeptide has at least 95% identity to the amino acid sequence designated SEQ ID NO:2.

39. (Previously added) The method of claim 7, wherein said ADP-glucose receptor polypeptide has at least 99% identity to the amino acid sequence designated SEQ ID NO:2.

40. Currently canceled.

41. (Previously added) The method of claim 12, wherein said ADP-glucose receptor polypeptide has at least 95% identity to the amino acid sequence designated SEQ ID NO:2.

42. (Previously added) The method of claim 12, wherein said ADP-glucose receptor polypeptide has at least 99% identity to the amino acid sequence designated SEQ ID NO:2.

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43. Currently canceled.

44. (Previously added) The method of claim 17, wherein said ADP-glucose receptor polypeptide has at least 95% identity to the amino acid sequence designated SEQ ID NO:2.

45. (Previously added) The method of claim 17, wherein said ADP-glucose receptor polypeptide has at least 99% identity to the amino acid sequence designated SEQ ID NO:2.

46. (Currently added) The method of claim 3, wherein said G-protein coupled signal is increased intracellular calcium ion concentration.

47. (Currently added) The method of claim 3, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

48. (Currently added) The method of claim 3, wherein said candidate compound contacts said ADP-glucose receptor polypeptide in the presence of ADP-glucose.

49. (Currently added) The method of claim 9, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

50. (Currently added) The method of claim 9, wherein said candidate compound contacts said ADP-glucose receptor polypeptide in the presence of ADP-glucose.

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51. (Currently added) The method of claim 14, wherein said G-protein coupled signal is increased intracellular calcium ion concentration.

52. (Currently added) The method of claim 14, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.

53. (Currently added) The method of claim 19, wherein said one or more candidate compounds comprises 100 or more different candidate compounds.